Suicidal ideation and attempts among patients with lifetime physical and/or sexual abuse in treatment for substance use disorders

Running head: Drug addiction, lifetime abuse and suicide

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ABSTRACT

Background: Several studies indicate that lifetime abuse is a relevant risk factor for suicidal ideation and/or attempts. However, little is known about this phenomenon in patients seeking treatment for substance use disorder. The prevalence rate of suicidal ideation and/or suicide attempts was explored among lifetime physically and/or sexually abused patients receiving treatment for drug addiction. The differential characteristics between these patients and those without suicidal behaviours were studied. Method: Three hundred and seventy-five patients were assessed. Socio-demographic characteristics, addiction severity, lifetime abuse, suicidal ideation and attempts, and psychopathological symptoms were explored. Results: Eighty-two patients (21.9%) presented with a history of lifetime abuse and were included in the study (37 men and 45 women). Sixty-two per cent of them presented with lifetime suicidal ideation (12.2% in the last month), and 30.5% with suicide attempts (1.2% in the last month). Patients with suicidal ideation or attempts showed a more severe addiction profile (assessed by the EuropASI) and more psychopathological symptoms (assessed by the SCL-90-R). Conclusion: This study highlights the relationship between previous traumatic experiences and suicidal behaviours. According to these results, systematic screening of suicidal risk in patients seeking treatment in addiction centres with histories of abuse is recommended.

Keywords: Addiction; physical abuse; sexual abuse; suicidal ideation; suicide attempts; assessment.

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INTRODUCTION

In recent years, several studies have shown high prevalence rates of suicidal ideation and attempts in patients with addiction problems (Dinwiddie, 2017; Simoneau, Menard, & Blanchette-Martin, 2017; Yuodelis-Flores & Ries, 2015). For suicidal ideation, the prevalence rates range from 17% to 50% (Darvishi, Farhadi, Haghtalab, & Poorolajal, 2015; Garlow, Purselle, & D'Orio, 2003; Moghaddam, Yoon, Dickerson, Kim, & Westermeyer, 2015; Petry & Kiluk, 2002; Vaszari, Bradford, O'Leary, Ben Abdallah, & Cottler, 2011). For suicide attempts, the rates vary between 16% and 44% (Darke et al., 2015; Garlow et al., 2003; Hung, Caine, Fan, Huang, & Chen, 2013; Moghaddam et al., 2015; Petry & Kiluk, 2002; Pirkola, Suominen, & Isometsa, 2004; Roy, 2001, 2002, 2009, 2010; Roy & Janal, 2007).

Among patients with drug addiction problems, those presenting with suicidal-related behaviours appear to have suffered more from lifetime abuse. Similarly, patients who sought treatment for substance use disorder with a history of lifetime abuse show higher rates of suicidal ideation and/or suicide attempts (Fernández-Montalvo, López-Goñi, & Arteaga, 2015; Hung et al., 2013; Roy, 2010; Roy & Janal, 2007; Trout, Hernandez, Kleiman, & Liu, 2017; Vaszari et al., 2011). For example, in a study by Fernández-Montalvo et al. (2015), the rate of suicidal ideation in a sample of 115 patients in treatment for addictions problems with histories of any type of lifetime abuse (psychological, physical and/or sexual) reached 48.8%, and the rate of suicide attempts was 21.3%.

From the risk-factor perspective, several studies have found that childhood adverse experiences, together with other variables (e.g., gender, comorbidity and personality disorders), are a relevant risk factor for suicidal ideation and/or suicide attempts in patients with substance use disorders (Pereira-Morales, Adan, Camargo, &

Forero, 2017; Roy, 2003b; Trout et al., 2017; Vaszari et al., 2011; Yuodelis-Flores & Ries, 2015).

Despite the relationship found between lifetime abuse and suicidal behaviours in patients in addiction treatment, there are no studies examining the specific characteristics of abused patients with suicidal ideation and/or suicide attempts in centres for addiction treatment. However, greater understanding of this profile is crucial to develop effective strategies for the early detection of, prevention of and intervention for suicide. Therefore, this is the first study providing specific information on suicidal ideation and/or suicide attempts in a sample of patients with lifetime abuse who sought treatment for substance use disorder. This study had two goals: a) to determine the prevalence rate of both suicidal ideation and attempts among patients receiving treatment for addiction with a history of physical and/or sexual lifetime abuse, and b) to analyse the differential characteristics between abused patients with and without suicidal ideation and with and without suicide attempts.

METHODS

The protocol for this study was approved by the ethics committees of the Universidad Pública de Navarra (PI-006/16) and of the Fundación Proyecto Hombre de Navarra (PHN2016-01). Informed consent was provided by all participants.

Participants

The initial sample consisted of 375 consecutive patients who sought treatment for addiction in one of the two programmes (outpatient and inpatient) of the Proyecto Hombre Navarra Foundation (Spain). These programmes have a cognitive behavioural basis and are geared towards abstinence. They are public and attend to patients who are representative of Spanish patients with addiction problems. Both outpatient and inpatient modalities have been effective in the treatment of addiction (Fernández-

Montalvo & López-Goñi, 2010; Fernández-Montalvo, López-Goñi, Illescas, Landa, & Lorea, 2008).

The inclusion criteria for this study were a) fulfilling the diagnostic criteria of alcohol and/or substance use disorder following the DSM-5 (American Psychiatric Association, 2013); b) being between 18 and 65 years old; c) having suffered lifetime physical and/or sexual abuse; d) signing an informed consent to be part of the study; and e) completing the two assessment sessions.

Two hundred and ninety-three (78.1%) of the 375 initial subjects did not meet the above criteria, mainly the third criterion related to lifetime physical and/or sexual abuse (n = 252), followed by 32 patients who did not complete the two assessment sessions, and 9 who did not sign the informed consent. Therefore, the final sample was composed of 82 subjects [physical abuse: n = 48 (58.5%), sexual abuse: n = 8 (9.8%), and both physical and sexual abuse: n = 26 (31.7%)]. The mean age of subjects was 37.4 years (SD = 8.9 years). Thirty-seven (45.1%) men and 45 (54.9%) women were included. The socioeconomic level of individuals in the sample was middle to lower-middle class. The main substances of consumption were alcohol (52.4%) and cocaine (36.6%), followed by other substances (e.g., heroin, cannabis, and amphetamine) at a smaller percentage (11%).

Instruments

The EuropASI (Kokkevi & Hartgers, 1995) is the European version of the Addiction Severity Index scale (ASI) (McLellan, Luborsky, Woody, & O´Brien, 1980). The Spanish version used in this study is authored by Bobes, González, Sáiz, and Bousoño (1996). This interview assesses the need for patient treatment based on seven different areas: a) general medical condition; b) employment and financial situation; c) alcohol consumption; d) use of other drugs; e) legal problems; f) family and social

relationships; and g) psychological state. The Interviewer Severity Rating (ISR), which has proven useful in several studies conducted in the treatment context (López-Goñi, Fernández-Montalvo, & Arteaga, 2012; López-Goñi et al., 2010), was used in this study. The score for each area ranges from 0 (no problem) to 9 (extreme problem). Higher scores correspond to a greater need for treatment.

The Symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1992) (Spanish version by González de Rivera, 2002[31]) is a self-administered general psychopathological assessment questionnaire. It consists of 90 questions that are answered on a 5-point Likert-type scale, ranging from 0 (none) to 4 (very much). The questionnaire aims to assess the respondent's psychiatric symptoms. The SCL-90-R has been shown to be sensitive to therapeutic change and thus may be used for either single or repeated assessments. The SCL-90-R measures nine areas of primary symptoms: somatisation, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. It also provides three indices that reflect the subject's overall level of severity: Global Severity Index (GSI), Positive Symptoms Distress Index (PSDI) and Positive Symptom Total (PST).

Procedure

After selecting the clinical sample, the assessment was carried out in two pre-treatment sessions. All patients were interviewed by clinical psychologists with ten or more years of experience working with addictions. Self-report measures were administered with the presence and support of the interviewers. Each session occurred once a week. In the first session, data on socio-demographic characteristics, drug consumption, and the presence of suicidal thoughts and attempts were collected using the EuropASI. In the second session, psychopathological symptoms were assessed with the SCL-90-R.

For the assessment of the presence of lifetime abuse, two specific items of the Family/Social area of the EuropASI were used: 18B (*"Has anyone ever physically abused you?"*) and 18C ("*Has anyone ever sexually abused you?"*). For the assessment of the global prevalence of both suicidal ideation and attempts, two specific items of the EuropASI Psychiatric area were used: 9 (*"Have you had a significant period in which you have experienced serious thoughts of suicide?")* and 10 (*"Have you attempted suicide? How many times?"*). According to the EuropASI codification (Bobes et al., 1996), these items assess the occurrence of both phenomena during the lifetime and within the past 30 days, and they are measured dichotomously (yes/no).

Data Analysis

Descriptive analyses were performed for all variables. In the bivariate analysis between patients with and patients without a history of suicidal ideation and attempts, χ^2 or Student's *t* test for independent samples was used, depending on the nature of the variables analysed. Effect sizes (Cohen's d) for all of the analyses were provided, taking into account Cohen's recommendation (Cohen, 1988): $d = 0.20$ (small effect size), $d = 0.50$ (medium effect size), and $d = 0.80$ (large effect size). Regarding multivariate analysis, two logistic regression analyses (forward method) were conducted to determine which specific factors were most important for differentiating between the groups studied. A difference of $p < .05$ was considered significant. All statistical analyses were performed using SPSS (vs. 24.0) software.

RESULTS

Prevalence of suicidal ideation and suicide attempts

The rate of patients with lifetime abuse who presented with suicidal ideation was 62.2% ($n = 51$), with 12.2% of patients presenting with suicidal ideation in the past 30 days ($n = 10$). There were no statistically significant differences between males and

females (Table 1). Regarding suicide attempts, the lifetime rate reached 30.5% (n = 25), with 1.2% in the past 30 days (n = 1); similarly, there were no gender differences. Therefore, 49% of patients (25 out of 51) with suicidal ideation had attempted suicide. Among patients who had attempted suicide, 44.5% (n = 16) had tried it more than once.

PLACE TABLE 1 HERE

Comparison between patients who sought treatment for substance use disorder with and without suicidal ideation

The results of comparisons between abused patients with and abused patients without suicidal ideation are shown in Table 2.

PLACE TABLE 2 HERE

Statistically significant differences between the groups were found in only three variables. Specifically, patients with lifetime abuse presented a longer history of alcohol consumption and greater severity in the medical and psychiatric areas of the EuropASI. There were no differences in the rest of variables studied.

Comparison between patients who sought treatment for substance use disorder with and without suicide attempts

The results of comparisons between abused patients with and abused patients without lifetime suicide attempts are shown in Table 3.

PLACE TABLE 3 HERE

Statistically significant differences between both groups were found in only four areas of the EuropASI: medical, employment/support, family/social, and psychiatric. In each of these areas, patients with suicide attempts scored significantly higher.

Multivariate analysis

The logistic regression analysis showed that the two variables that best classified individuals belonging to the group with suicidal ideation were scores on the medical and

psychiatric areas of the EuropASI. These variables correctly classified the presence of suicidal ideation in 80.9% of cases (Table 4). Regarding suicide attempts, the psychiatry scale of the EuropASI correctly classified 80.9% of cases.

PLACE TABLE 4 HERE

DISCUSSION

This study explored the prevalence of suicidal ideation and suicide attempts in a sample of patients who sought treatment for substance use disorder with a history of lifetime physical and/or sexual abuse. This topic is clinically relevant because, although several studies have shown high rates of suicidal behaviours among these types of patients, no studies with specific samples of patients in treatment for a substance use disorder with lifetime abuse have been carried out to date.

According to the results obtained, a significant percentage of the sample presented lifetime suicidal ideation (62.2%) and/or suicide attempts (30.5%). These data corroborate the findings of other studies consisting of general samples of patients with addictions, thus highlighting the relationship between previous traumatic experiences and suicidal behaviours (Fernández-Montalvo et al., 2015; Hung et al., 2013; Pereira-Morales et al., 2017; Roy, 2010; Roy & Janal, 2007; Trout et al., 2017; Vaszari et al., 2011; Yuodelis-Flores & Ries, 2015). The main contribution of this study is that these rates have been obtained in a sample of patients who sought treatment for an addiction problem with lifetime physical and/or sexual abuse. Moreover, another strength of this study is that it explores both the behavioural aspect of suicide (suicide attempts) and the cognitive perspective (suicidal ideation).

The profile obtained of abused patients with suicidal ideation revealed their longer history of alcohol consumption and greater severity of medical and psychiatric concerns. On the other hand, abused patients with suicide attempts showed worse

conditions in the medical, employment/support, family/social, and psychiatric domains. In summary, patients with suicidal behaviours present with greater severity of addiction problems. Therefore, these findings are in line with those found in general samples of patients with addiction problems, in which physical and/or sexual abuse was not taken into account (Carra, Bartoli, Crocamo, Brady, & Clerici, 2014; Darke, Torok, Kaye, & Ross, 2010; Roy, 2001, 2003a; Simoneau et al., 2017).

In this study, most of the patients with suicidal ideation (80.9%) were correctly classified based on only two variables: medical and psychiatric conditions. With regard to suicide attempts, the psychiatric condition also classified 80.9% of cases. Once again, as observed in previous studies (Dinwiddie, 2017; Simoneau et al., 2017; Yuodelis-Flores & Ries, 2015), the clinical situation becomes a crucial variable in the prediction of suicidal behaviours in patients who seek treatment for substance use disorder.

This study has several limitations. First, the study was completed in one specific intervention programme in Spain. Therefore, the results should be interpreted with caution and may not be generalizable to other settings. Second, the cross-sectional nature of the study does not allow us to establish causal relationships between the variables. Future longitudinal studies should be developed to provide accurate information on the causal link between the variables studied. Third, due to the inclusion criteria, 78.1% of the initial sample was not included in the study. Consequently, only 82 patients participated in the study. Future studies should include larger samples to corroborate these results. Moreover, this would enable comparisons between childhood and adult abuse, and between physical and sexual abuse. Finally, as women appear to be more frequently affected by lifetime abuse, it would be interesting to develop gender-based perspective studies of this phenomenon (Fernández-Montalvo et al., 2015).

In summary, the main contribution of this study is the provision of new data on a phenomenon that has been studied very little to date: the relationship between addiction and suicidal ideation and suicide attempts in lifetime-abused patients in treatment for addictions problems. The results indicate the need to develop systematic screenings of suicidal risk when assessing patients with lifetime abuse in clinical addiction settings.

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DISCLOSURE OF INTEREST

Authors do not have any financial interests that may be interpreted as influencing the research.

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Table 1

Rate of suicidal ideation and suicide attempts

	Total (*N* = 82)		**Males (*n* = 37)**		**Females (*n* = 45)**			
	N	***(%)***	***n***	***(%)***	***n***	***(%)***	***X^2 (df)***	***p***
Lifetime suicidal ideation	51	62.2%	20	54.1%	31	68.9%	1.9 (1)	.168
Suicidal ideation in the past 30 days	10	12.2%	4	10.8%	6	13.3%	0.1 (1)	.728
Lifetime suicide attempts	25	30.5%	9	24.3%	16	35.6%	1.2 (1)	.272
Suicide attempts in the past 30 days	1	1.2%	0	--	1	2.3%	0.8 (1)	.356
Number of suicide attempts								
1	7	8.5%	3	8.1%	4	8.9%		
2	7	8.5%	3	8.1%	4	8.9%	0.2 (2)	.901
$\geq$ 3	9	36.0%	3	8.1%	6	13.3%		

Table 2
Comparisons between patients who did and patients who did not experience lifetime suicidal ideation

	All (N = 82)	No suicidal ideation (n = 31)	Suicidal ideation (n = 51)	X^2 (df)	p	
Gender	*N (%)*	*N (%)*	*N (%)*			
Male	37 (45.1%)	17 (54.8%)	20 (39.2%)	1.9 (1)	.168	
Female	45 (54.9%)	14 (45.2%)	31 (60.8%)			
Marital status						
Single	44 (53.7%)	16 (51.6%)	28 (54.9%)			
Married	18 (22.0%)	6 (19.4%)	12 (23.5%)	0.6 (2)	.729	
Other	20 (24.4%)	9 (29.0%)	11 (21.6%)			
Substance						
Alcohol	43 (52.4%)	12 (38.7%)	31 (60.8%)			
Cocaine	30 (36.6%)	15 (48.4%)	15 (29.4%)	3.9 (2)	.145	
Other	9 (11.0%)	4 (12.9%)	5 (9.8%)			
Overdoses	15 (18.3%)	5 (16.1%)	10 (19.6%)	0.1 (1)	.693	
	M (SD)	*M (SD)*	*M (SD)*	*t (df)*	*p*	*d*
Age	37.4 (8.9)	37.6 (9.4)	37.2 (8.7)	0.2 (80)	.850	0.04
Age at first alcohol consumption	16.8 (4.3)	17.4 (4.9)	16.5 (3.9)	0.9 (72)	.388	0.21
Years of alcohol consumption	15.3 (9.7)	11.8 (6.8)	17.3 (10.6)	2.4 (71)	.018	0.57
Age at first cocaine consumption	21.9 (6.4)	20.9 (6.7)	22.6 (6.2)	0.9 (50)	.382	0.50
Years of cocaine consumption	7.4 (5.1)	6.9 (4.1)	7.7 (5.6)	0.5 (49)	.591	0.16
EuropASI ISR						
Medical	2.7 (1.8)	1.9 (1.4)	3.2 (1.7)	3.7 (80)	< .001	0.78
Employment/Support	3.4 (2.0)	3.0 (2.1)	3.6 (2.0)	1.5 (80)	.463	0.33
Alcohol	4.5 (2.0)	4.3 (2.1)	4.6 (1.9)	0.5 (80)	.640	0.11
Drug	3.9 (2.4)	3.8 (2.3)	3.9 (2.5)	0.2 (79)	.813	0.05
Legal	2.0 (1.7)	1.8 (1.8)	2.0 (1.7)	0.5 (80)	.617	0.11
Family/Social	5.2 (1.6)	4.8 (1.6)	5.4 (1.5)	1.7 (79)	.601	0.37
Psychiatric	4.4 (1.9)	3.6 (1.8)	4.9 (1.7)	3.3 (80)	.002	0.70
SCL-90-R						
Global Severity Index	70.4 (33.3)	66.3 (31.6)	72.9 (34.3)	0.9 (80)	.389	0,20
Positive Symptom Distress Index	52.7 (36.4)	44.6 (33.8)	57.7 (37.3)	1.6 (80)	.117	0,36
Positive Symptom Total	73.9 (30.6)	70.0 (29.7)	76.3 (31.1)	0.9 (80)	.366	0,21
Somatisation	61.7 (32.9)	55.8 (33.4)	65.2 (32.5)	1.3 (80)	.211	0.29
Obsession-compulsion	66.4 (33.8)	65.0 (33.3)	67.2 (34.4)	0.3 (80)	.768	0.07
Interpersonal sensitivity	66.6 (34.1)	61.3 (31.6)	69.8 (35.4)	1.1 (80)	.280	0.25
Depression	66.1 (32.6)	62.9 (28.8)	68.0 (34.9)	0.7 (80)	.500	0.15
Anxiety	65.0 (35.0)	58.6 (33.2)	68.9 (35.9)	1.3 (80)	.202	0.26
Hostility	57.5 (36.1)	55.8 (34.3)	58.5 (37.5)	0.3 (80)	.740	0.08
Phobic anxiety	59.1 (37.7)	54.0 (35.4)	62.3 (39.0)	1.0 (80)	.338	0.22
Paranoid ideation	67.1 (34.1)	66.0 (31.6)	67.7 (35.7)	0.2 (80)	.822	0.05
Psychoticism	75.7 (28.5)	77.6 (25.1)	74.5 (30.6)	0.5 (80)	.630	0.11

Table 3

Comparisons between patients who did and patients who did not attempt suicide

	No suicide attempts (*n* = 57)	**Suicide attempts (*n* = 25)**	***X*² *(df)***	***p***	
Gender	***N (%)***	***N (%)***			
Male	28 (49.1%)	9 (36.0%)	1.2 (1)	.272	
Female	29 (50.9%)	16 (64.0%)			
Marital status					
Single	29 (50.9%)	15 (60.0%)			
Married	12 (21.1%)	6 (24.0%)	1.4 (2)	.502	
Other	16 (28.1%)	4 (16.0%)			
Substance					
Alcohol	27 (47.4%)	16 (64.0%)			
Cocaine	22 (38.6%)	8 (32.0%)	2.7 (2)	.257	
Other	8 (14.0%)	1 (4.0%)			
Overdoses	8 (14.0%)	7 (28.0%)	2.3 (1)	.132	
	M (SD)	***M (SD)***	***t (df)***	***p***	***d***
Age	38.1 (9.5)	35.8 (7.3)	1.1 (80)	.283	0.26
Age at first alcohol consumption	17.0 (4.5)	16.3 (3.7)	0.6 (72)	.525	0.16
Years of alcohol consumption	14.9 (10.1)	16.0 (9.0)	0.4 (71)	.664	0.11
Age at first cocaine consumption	22.5 (6.7)	20.6 (5.7)	1.0 (50)	.327	0.30
Years of cocaine consumption	7.2 (4.8)	7.9 (5.9)	0.4 (49)	.696	0.14
EuropASI ISR					
Medical	2.4 (1.7)	3.5 (1.7)	2.7 (80)	.009	0.62
Employment/Support	3.1 (2.0)	4.1 (2.1)	2.1 (80)	.043	0.48
Alcohol	4.3 (2.0)	5.0 (1.9)	1.6 (80)	.123	0.37
Drug	3.7 (2.3)	4.2 (2.7)	0.9 (79)	.393	0.21
Legal	1.9 (1.6)	2.2 (2.0)	0.7 (80)	.503	0.16
Family/Social	4.9 (1.6)	5.8 (1.5)	2.3 (79)	.026	0.53
Psychiatric	3.9 (1.6)	5.5 (1.9)	4.0 (80)	< .001	0.88
SCL-90-R					
Global Severity Index	67.5 (32.6)	77.0 (34.6)	1.2 (80)	.236	0.29
Positive Symptom Distress Index	49.9 (35.9)	59.2 (37.4)	1.1 (80)	.287	0.26
Positive Symptom Total	71.5 (29.5)	79.5 (32.9)	1.1 (80)	.278	0.26
Somatisation	62.5 (31.6)	59.8 (36.4)	0,3 (80)	.732	0.08
Obsession-compulsion	64.0 (33.9)	71.8 (33.4)	1.0 (80)	.336	0.23
Interpersonal sensitivity	64.5 (33.1)	71.4 (36.4)	0,8 (80)	.405	0.20
Depression	62.7 (31.2)	73.6 (35.2)	1.4 (80)	.166	0.33
Anxiety	61.6 (34.9)	72.8 (34.9)	1.3 (80)	.184	0.32
Hostility	55.5 (35.6)	61.9 (37.8)	0.7 (80)	.466	0.18
Phobic anxiety	54.8 (36.3)	69.1 (39.5)	1.6 (80)	.113	0.38
Paranoid ideation	66.3 (31.9)	68.8 (39.2)	0.3 (80)	.767	0.07
Psychoticism	75.3 (27.6)	76.5 (31.1)	0.2 (80)	.868	0.04

Table 4

*Logistic regression analyses**

Dependent variable = Suicidal ideation; 0 = Absence; 1 = Presence			
	Variables	**Odds Ratio**	**95% Confidence Interval**
	Medical (EuropASI)	1.981 (p = .052)	(0.995 – 3.944)
	Psychiatric (EuropASI)	2.290 (p = .002)	(1.340 – 3.914)
	Constant	0.012 (p = .002)	
Adjusted R^2	.439		
Correctly classified	80.9% (Total)	72.2% (Absence suicidal ideation)	86.2% (Presence suicidal ideation)
Dependent variable = Suicide attempt; 0 = Absence; 1 = Presence			
	Variables	**Odds Ratio**	**95% Confidence Interval**
	Psychiatric (EuropASI)	3.471 (p = .003)	(1.533 – 7.858)
	Constant	0.001 (p = .002)	
Adjusted R^2	.440		
Correctly classified	80.9% (Total)	88.2% (Absence suicide attempt)	61.5% (Presence suicide attempt)

* All the studied variables (sociodemographic, consumption and psychopathological) were included in the models